



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
(Attorney Docket No. 011738.00150)

In re U.S. Patent Application of Frei, et al.)	
)	
Application No. 10/687,571)	Group Art Unit: 2857
)	
Filed: October 15, 2003)	Examiner: Tsai
)	
For: Clustering of Recorded Patient)	Confirmation No. 7155
Neurological Activity to Determine)	
Length of a Neurological Event)	

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Pursuant to 37 CFR §§1.97 and 1.98, the Applicant filed an Information Disclosure Statement on April 26, 2004 for the above-identified application.

This Supplemental Information Disclosure Statement is being submitted to advise the Commissioner of the following related co-pending patent applications:

10/687,133	10/687,344	10/687,567
10/687,135	10/687,348	10/687,570
10/687,289	10/687,389	10/688,214
10/687,290	10/687,557	
10/687,306	10/687,566	

KCT 11/15/06



PTO/SB/08a (08-03)

Approved for use through 07/31/2008. OMB 0851-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 1 of 4

Complete if Known

Application Number	10/687,571
Filing Date	October 15, 2003
First Named Inventor	Mark G. Frei
Art Unit	2857
Examiner Name	TBD
Attorney Docket Number	011738.00150

U.S. PATENT DOCUMENTS

Examiner Initials *	Cite No. ¹	Document Number	Issue/Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code ² (if known)			
✓		US- 3522811	08/04/1970	Schwartz et al.	
		US- 3850181	11/26/1974	Saul Liss	
		US- 3863625	02/04/1975	Viglione et al.	
		US- 3987618	07/08/1978	Sidney A. Ross	
		US- 3993048	11/23/1978	Fernandez et al.	
		US- 4019518	04/26/1977	Maurer et al.	
		US- 4038538	07/28/1977	Paul L. Feintuch	
		US- 4285474	10/20/1981	Robert E. Fischell	
		US- 4373527	2/15/1983	Robert E. Fischell	
		US- 4417592	11/28/1983	John E. Roy	
		US- 4566484	01/28/1988	Piconne et al.	
		US- 4581758	04/08/1988	Coker et al.	
		US- 4610259	09/09/1988	Cohen et al.	
		US- 4702254	10/27/1987	Jacob Zabara	
		US- 4944299	07/31/1990	Sergiu Sulvian	
		US- 5311869	05/19/1992	Nappholz et al.	
		US- 5269303	12/14/1993	Wemicke et al.	
		US- 5299589	04/05/1994	Wemicke et al.	
		US- 5311878	05/17/1994	Olsen et al.	
		US- 5335857	08/09/1994	Terry Jr. et al.	
✓		US- 6473839	10/24/2002	Fischell et al.	
		US- 6480743	11/12/2002	Kirkpatrick et al.	
		US- 6560488	05/08/2003	Osorio et al.	
		US- 6581138	07/08/2003	Fischell et al.	
		US- 6587954	07/22/03	Pless et al.	
		US- 6647298	11/11/2003	Fischell et al.	
		US- 2002/0013814	01/31/2002	David L. Thompson	

Examiner
SignatureDate
Considered

11/13/06

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 801.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Mail Stop Amendment, P.O. Box 1450, Alexandria, VA 22313-1450.

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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 2 of 4

Complete if Known

Application Number	10/687,571
Filing Date	October 15, 2003
First Named Inventor	Mark G. Frei
Art Unit	2857
Examiner Name	TBD
Attorney Docket Number	011738.00150

U.S. PATENT DOCUMENTS

Examiner Initials *	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code ² (if known)			
fcg		US- 5487754	01/30/1998	Snell et al.	
		US- 5626145	05/06/1997	Clapp et al.	
		US- 5683422	11/04/1997	Mark T. Rise	
		US- 5713922	02/03/1998	Gary William King	
		US- 5713923	02/03/1998	Ward et al.	
		US- 5716377	02/10/1998	Rise et al.	
		US- 5720770	02/24/1998	Nappholz et al.	
		US- 5743860	04/28/1998	Hively et al.	
		US- 5752976	05/19/1998	Duffin et al.	
		US- 5782188	08/11/1998	Mark T. Rise	
		US- 5978702	11/02/1999	Ward et al.	
		US- 5995888	11/30/1999	Dorfmeister et al.	
		US- 6016449	01/18/2000	Fischell et al.	
		US- 6018682	01/25/2000	Mark T. Rise	
		US- 6066163	05/23/2000	Michael Sasha John	
		US- 6083248	07/04/2000	David L. Thompson	
		US- 6094598	7/25/2000	Elsberry et al.	
		US- 6117066	09/12/2000	Abrams et al.	
		US- 6128537	10/03/2000	Mark T. Rise	
		US- 6128538	10/03/2000	Fischell et al.	
		US- 6134474	10/17/2000	Fischell et al.	
		US- 6200265	03/13/2001	Walsh et al.	
		US- 6224549	05/01/2001	Win Van Drongelen	
		US- 6227203	05/08/2001	Rise et al.	
		US- 6230049	05/08/2001	Fischell et al.	
		US- 6337987	01/08/2002	Mark T. Rise	
		US- 6341238	01/22/2002	Osorio et al.	
		US- 6353754	03/05/2002	Fischell et al.	
		US- 6356784	03/12/2002	Lozano et al.	
		US- 6360122	03/19/2002	Fischell et al.	
		US- 6366813	04/02/2002	Daniel J. Di Lorenzo	
		US- 6374140	04/16/2002	Mark T. Rise	
		US- 6427086	07/30/2002	Fischell et al.	
		US- 6459936	10/01/2002	Fischell et al.	
		US- 6466822	10/15/2002	Benjamin D. Pless	
		US- 6473639	10/24/2002	Fischell et al.	

Examiner Signature	<i>Kumertoff</i>	Date Considered	11/15/06
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Substitute for form 1449B/PTO			Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT			Application Number	10/687,571
			Filing Date	October 15, 2003
			First Named Inventor	Mark G. Frei
			Art Unit	2857
			Examiner Name	TBD
(Use as many sheets as necessary)			Attorney Docket Number	011738.00150
Sheet	3	of	4	

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
KGF		Alan V. Oppenheim & Ronald W. Schaffer, Digital Signal Processing, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1975, pg. 18-24.	
		Gotman J., & Gloor, P., "Automatic Recognition and Quantification of Interictal Epileptic Activity in the Human Scalp EEG", Electroencephalography and Clinical Neurophysiology, 1976, 41:513-529.	
		B. Litt and J. Echauz, "Prediction of Epileptic Seizures", 1 The Lancet Neurology 22 May 2002	
		H. Qu & J. Gotman, "A Seizure Warning System For Long-term Epilepsy Monitoring", 45 Neurology 2250, 1995	
		J. Gotman, "Automatic Recognition of Epileptic Seizures in the EEG", 54 Electroencephalography and Clinical Neurophysiology at 530-540, 1982	
		Lapkin et al., "The Electroencephalogram in Childhood Basilar Artery Migraine", 27Neurology 580-583, June 1977)	
		Murro et al., "Computerized Seizure Detection of Complex Partial Seizures", 79 Electroencephalography and Clinical Neurophysiology 330-333 (1991)	
		P. Rajna and C. Lona, "Sensory Stimulation for Inhibition of Epileptic Seizures", 30(2) Epilepsia 168-174, 1989	
		R.P. Lesser et al., "Brief Bursts of Pulse Stimulation Terminate Afterdischarges Caused by Cortical Stimulation", Neurology 53, December 1999	
		Webber, W.R.S. et al., "Automatic EEG Spike Detection: What Should the Computer Imitate", 87 Electroencephalography and Clinical Neurophysiology 330-333 (1993)	
		Grassberger, Peter et al., "Characterization of Strange Attractors" Vol. 50, No.5., The American Physical Society, January 31, 1983.	

Examiner Signature	<i>Karen E. P. O.</i>	Date Considered	11/13/06
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¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Mail Stop Amendment, P.O. Box 1450, Alexandria, VA 22313-1450.

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**INFORMATION DISCLOSURE
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(Use as many sheets as necessary)

Sheet 4 of 4

Complete if Known

Application Number	10/687,571
Filing Date	October 15, 2003
First Named Inventor	Mark G. Frei
Art Unit	2857
Examiner Name	TBD
Attorney Docket Number	011738.00150

NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
Beut		Iasemidis, L. D. and Sackellares, J. C. "Chaos Theory and Epilepsy". The Neuroscientist, 2:118-126, 1996. <retrieved from http://citeseer.ist.psu.edu/iasemidis96chaos.html >	
		Elger, Christian E., et al., "Short Communication: Seizure Prediction By Non-Linear Time Series Analysis of Brain Electrical Activity" European Journal of Neuroscience, Vol. 10, pgs. 786-789 (1998)	
		Gotman, J., "Seizure Recognition and Analysis", Montreal Neurological Institute and Department of Neurology and Neurosurgery, McGill University, Montreal, Quebec. H3A 2B4 (Canada)	
		Vachtsevanos, G.J., et al. "Neuro-Fuzzy Approaches to Decision Making: A Comparative Study With An Application to Check Authorization" Journal of Intelligent and Fuzzy Systems, Vol. 6, pgs. 259-278 (1998)	
✓		Osorio, Ivan, et al., "Real-Time Automated Detection and Quantitative Analysis of Seizures and Short-Term Prediction of Clinical Onset" Epilepsia, Vol. 39(6) pgs. 615-627, (1998)	

Examiner
Signature*Kuenig*Date
Considered

11/13/06

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ELECTRONIC INFORMATION DISCLOSURE STATEMENT

Electronic Version v18

Stylesheet Version v18.0

Title of
Invention

Clustering of Recorded Patient Neurological Activity to
Determine Length of a Neurological Event

Application Number: 10/687571



Confirmation Number: 7155

First Named Applicant: Mark Frei

Attorney Docket Number: 011738.00150

Art Unit: 2857

Examiner: Unassigned Unassigned

Search string: (5995868 or 6385479 or 6549804 or 6658287
or 6678548),pn.

Certification: This Information Disclosure Statement was submitted under the following conditions, which satisfies the requirement under 37 CFR 1.97(e). The filer certified:

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement.

US Patent Documents

Note: Applicant is not required to submit a paper copy of cited US Patent Documents

init	Cite.No.	Patent No.	Date	Patentee	Kind	Class	Subclass
<input checked="" type="checkbox"/>	1	5995868	1999-11-30	Dorfmeister			
<input checked="" type="checkbox"/>	2	6385479	2002-05-07	Sibbitt			
<input checked="" type="checkbox"/>	3	6549804	2003-04-15	Osorio			
<input checked="" type="checkbox"/>	4	6658287	2003-12-02	Litt			
<input checked="" type="checkbox"/>	5	6678548	2004-01-13	Echauz			

Signature

Examiner Name	Date
	11/13/06